

Response

Application No. 10/648,283

Attorney Docket No. 031080

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application.

Listing of Claims:

Claim 1 (Original): A switching circuit comprising:

switching transistors connected to one of an input terminal and an output terminal of the switching circuit; and

a control bias supply circuit that supplies a control bias for cutting off all the switching transistors to the switching transistors when all of the switching transistors are in a non-selected state.

Claim 2 (Original): The switching circuit as claimed in claim 1, wherein the control bias supply circuit supplies the control bias to a connection node via which the switching transistors are commonly connected.

Claim 3 (Original): The switching circuit as claimed in claim 1, wherein the control bias supply circuit supplies the control bias in accordance with a voltage signal that is applied from outside of the switching circuit.

Response

Application No. 10/648,283

Attorney Docket No. 031080

Claim 4 (Original): The switching circuit as claimed in claim 3, wherein the control bias supply circuit comprises a diode connected in a forward direction in which the voltage signal is applied.

Claim 5 (Original): The switching circuit as claimed in claim 1, wherein:
the control bias supply circuit comprises a bias transistor including a structure of a MESFET (metal semiconductor field effect transistor); and
the control bias is supplied in accordance with a voltage signal applied to a gate of the bias transistor.

Claim 6 (Original): The switching circuit as claimed in claim 5, wherein one of a source and a drain of the bias transistor is connected to a connection node via which the switching transistors are commonly connected, while the other one of the source and drain is connected to a ground potential through a capacitive element.

Claim 7 (Original): The switching circuit as claimed in claim 1, wherein the control bias supply circuit varies a voltage value of the control bias.

· Response

Application No. 10/648,283
Attorney Docket No. 031080

Claim 8 (Currently Amended): The switching circuit as claimed in claim 1, wherein the control bias supply circuit selectively supplies one control bias voltage from among a plurality of control biases voltages.

Claim 9 (Original): The switching circuit as claimed in claim 1, wherein the control bias supply circuit varies a voltage value of the control bias when all the switching circuits are in the non-selected state.

Claim 10 (Original): The switching circuit as claimed in claim 1, wherein the control bias supply circuit supplies the control bias having a first value when at least one of the switching transistors is in a selected state, and supplies the control bias having a second value different from the first value when all the switching transistors are in the non-selected state.

Claim 11 (Original): The switching circuit as claimed in claim 1, further comprising at least three switching transistors, which are commonly connected to one of the input terminal and the output terminal of the switching circuit.

Claim 12 (Original): The switching circuit as claimed in claim 1, further comprising a shunt transistor connected to a source of a first one of the switching transistors, wherein a voltage

Response

Application No. 10/648,283

Attorney Docket No. 031080

signal applied to a gate of a second one of the switching transistors is applied to a gate of the shunt transistor.

Claim 13 (Original): The switching circuit as claimed in claim 1, wherein the switching transistors are MESFETs.

Claim 14 (Original): The switching circuit as claimed in claim 2, wherein the common connection node is connected to a ground potential through a resistor.

Claim 15 (Original): The switching circuit as claimed in claim 1, further comprising ballast resistors, each of which is connected between a source and a drain of a corresponding one of the switching transistors.

Claim 16 (Original): A switching module comprising:
a switching circuit including switching transistors connected to one of an input terminal and an output terminal of the switching circuit, and a control bias supply circuit that supplies a control bias for cutting off all the switching transistors to the switching transistors when all of the switching transistors are in a non-selected state; and

Response

Application No. 10/648,283

Attorney Docket No. 031080

a decoding circuit that decodes a data signal inputted from an outside of the switching module and produces a voltage signal and/or a selection control signal for operating the switching circuit.

Claim 17 (Original): The switching module as claimed in claim 16, wherein the switching circuit and the decoding circuit are formed on a single chip.

Claim 18 (Original): A method of controlling a switching circuit including switching transistors commonly connected to one of an input terminal and an output terminal of the switching circuit, comprising a step of:

supplying a control bias for cutting off all the switching transistors to the switching transistors when all the switching transistors are in a non-selected state.

Claim 19 (Original): The method as claimed in claim 18, wherein the step supplies the control bias to the switching transistors in accordance with a voltage signal applied to a gate of a bias transistor that includes a MESFET.

Claim 20 (Original): The method as claimed in claim 18, wherein the step comprises a step of varying a voltage value of the control bias.

Response

Application No. 10/648,283

Attorney Docket No. 031080

Claim 21 (Original): The method of controlling a switching circuit as claimed in claim 18, wherein the step comprises a step of varying a voltage value of the control bias when all the switching transistors are in the non-selected state.

Claim 22 (Original): The method of controlling a switching circuit as claimed in claim 18, wherein the step comprises a step of supplying the control bias having a first voltage value when at least one of the switching transistors is in a selected state and supplying the control bias having a second voltage value different from the first voltage value when all the switching transistors are in the non-selected state.